

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1. (currently amended) A beverage producing apparatus for controllably combining a concentrate and a dilution material to produce a beverage, the beverage producing apparatus comprising:

means for delivering concentrate;

means for delivering dilution material;

a controller operatively coupled to and operatively controlling the concentrate delivering means and the dilution material delivering means;

means for detecting conductivity;

a mixing chamber for combining concentrate and dilution material;

orienting at least two conductivity probes in a generally horizontally spaced apart orientation in the mixing chamber for detecting conductivity at a horizontal location in mixing chamber; and

the conductivity means being operatively coupled to the controller for providing conductivity information relating at least a mixture of the concentrate and dilution material, the controller operatively controlling the dispensing of concentrate and dilution material to maintain the conductivity of the mixture in a desired conductivity range.

2. (currently amended) A method for controlling the dispensing of a beverage, the method comprising the steps of:

providing means for delivering concentrate;

providing means for delivering dilution material;

providing a controller operatively coupled to the concentrate delivering means and the dilution material delivering means; [[and]]

providing a mixing chamber for receiving concentrate and dilution material;

providing means for detecting conductivity;

positioning the conductivity detecting means in a generally horizontal orientation in the mixing chamber;

initiating dispensing of a beverage by sending a signal to the controller;

controllably dispensing dilution material from the dilution material delivering means to the mixing chamber;

dispensing concentrate from the concentrate delivering means to the mixing chamber;

mixing the concentrate and dilution material in the mixing chamber to produce a beverage;

pooling concentrate and dilution material prior to dispensing in an area proximate to at least a portion of the conductivity detecting means;

detecting the conductivity of the beverage at a generally horizontal location in mixing chamber prior to dispensing; and

controllably adjusting at least one of the concentrate and dilution material when the conductivity is not at least one of a predetermined level and range.

3. (currently amended) A system for controllably dispensing beverages and maintaining a beverage dispensed thereby within a desired conductivity range, the system comprising:

means for delivering concentrate;

means for delivering dilution material;

a controller operatively coupled to and operatively controlling the concentrate delivering means and the dilution material delivering means;

a mixing chamber for receiving and combining concentrate and dilution material;

means for detecting conductivity including at least a pair of conductive probes;

orienting the at least two conductive probes in a generally horizontally spaced apart orientation in the mixing chamber for detecting conductivity at a horizontal location in mixing chamber; and

the conductivity means being operatively coupled to the controller for providing conductivity information relating to at least a mixture of the concentrate and dilution material, the controller operatively controlling the dispensing of concentrate and dilution

material to maintain the conductivity of the mixture in a desired conductivity range.

4. (currently amended) A beverage producing apparatus for controllably combining a concentrate and a dilution material to produce a beverage, the beverage producing apparatus comprising:

- a controllable concentrate dispensing assembly;
- a controllable dilution material dispensing assembly;
- a mixing chamber for receiving and combining concentrate and dilution material;
- a controller operatively coupled to and operatively controlling the concentrate dispensing assembly and the dilution material dispensing assembly;
- a conductivity detector including at least a pair of conductive probes;
- orienting the at least two conductive probes in a generally horizontally spaced apart orientation in the mixing chamber for detecting conductivity at a horizontal location in mixing chamber; and
- the conductivity detector being operatively coupled to the controller for providing conductivity information relating at least a mixture of the concentrate and dilution material, the controller operatively controlling the dispensing of concentrate and dilution material to maintain the conductivity of the mixture within at least one of a predetermined conductivity level and a predetermined conductivity range.

5. (currently amended) A method for controlling the dispensing of a beverage, the method comprising the steps of:

- providing a controllable concentrate dispensing assembly;
- providing a controllable dilution material dispensing assembly;
- providing a controller operatively connected to the concentrate dispensing assembly and the dilution material dispensing assembly;
- providing a mixing chamber for receiving concentrate and dilution material;
- providing a conductivity detector;
- positioning the conductivity detecting means in a generally horizontal orientation in the mixing chamber;

initiating dispensing of a beverage by sending a signal to the controller;  
controllably dispensing dilution material from the dilution material delivering means to the mixing chamber;

dispensing concentrate from the concentrate delivering means to the mixing chamber;

mixing the concentrate and dilution material in the mixing chamber to produce a beverage;

pooling concentrate and dilution material prior to dispensing in an area proximate to at least a portion of the conductivity detecting means;

detecting the conductivity of the beverage at a generally horizontal location in mixing chamber prior to dispensing; and

controllably adjusting at least one of the concentrate and dilution material when the conductivity is not at least one of a predetermined level and range.

6. (currently amended) A system for controllably dispensing beverages and maintaining a beverage dispensed thereby within a desired conductivity range, the system comprising:

means for delivering concentrate;

means for delivering dilution material;

a mixing chamber for receiving and combining concentrate and dilution material;

a controller operatively coupled to and operatively controlling the concentrate delivering means and the dilution material delivering means;

means for detecting conductivity including at least a pair of conductive probes ;

orienting the at least two conductive probes in a generally horizontally spaced apart orientation in the mixing chamber for detecting conductivity at a horizontal location in mixing chamber; and

the conductivity means being operatively coupled to the controller for providing conductivity information relating to at least a mixture of the concentrate and dilution material, the controller operatively controlling the dispensing of concentrate and dilution material to maintain the conductivity of the mixture in a desired conductivity range.